MP MASTER
MA36347

MOTOROLA

MOBILE

ROOFTOP ANTENNAS

MODEL TABLE

ANTENNA MODEL	FREQUENCY RANGE
TAD6060A	132-144 MC
TU316L	144-152 MC
TU316M	152-162 MC
TU316H	162-174 MC
TU265	406-420 MC
TU308	450-470 MC
TAD6101A	144-152 MC
TAD6102A	152-162 MC
TAD6103A	162-174 MC

1. INTRODUCTION

The mobile rooftop antennas listed above are supplied with coaxial lead-in cable and connector. In the completed installation the cable is concealed between the headlining and the roof of the vehicle, with a minimum disturbance to the headlining and the upholstery.

2. INSTALLATION

a. Planning the Installation

The installation procedure following is for a two-door passenger car. The installation procedure may vary slightly with the type of vehicle on which the antenna is to be installed; but, generally speaking, the procedures outlined are of a "universal" nature.

First, select a location for the antenna as near the center of the roof as possible.

IMPORTANT

When installing the lead-in cable, the cable should be kept as short as possible to minimize r-f loss.

Running the coaxial cable from the antenna diagonally to the right or left side into the trunk compartment will keep it short as required. The headlining may be probed with the fingers to make certain that all points of obstruction will be avoided.

b. Tools and Materials Required:

1 - Center Punch
1 - Hammer
1 - Electrician's Fishtape
1 - Large Hand Drill
1 - Soldering Iron
1 - 3/4" Sheet Metal Drill or
1 - 3/4" Hole Saw
1 - 3/4" Open End Wrench
1 - 7/8" Open End Wrench
1 - Screwdriver (1/8" blade)
1 - Phillips Head Screwdriver (size to fit window trim screws)
1 - Side Cutters
4 ft. - #22 or #24 Bare Wire
- Solder (rosin core only)
- Lacquer, Glyptal or Varnish

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c. Installation Procedure

Step (1) Having located the desired position for the antenna, mark this location with a center punch and drill a 3/4" hole.

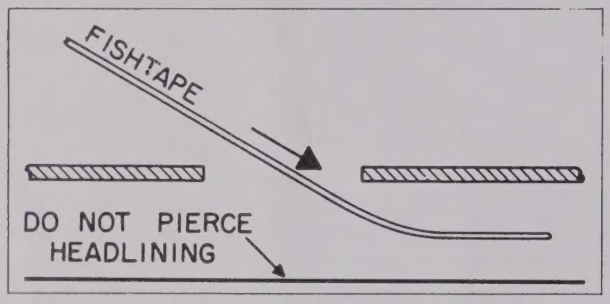
CAUTION

Use a sheet metal drill or hole saw. DO NOT USE A STANDARD TWIST DRILL. Be careful not to tear the headlining.

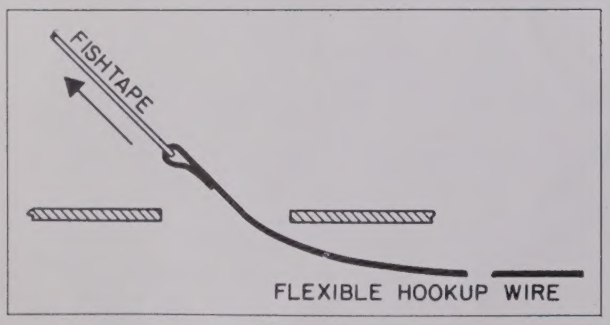
Scrape the paint off the top of the vehicle roof about 1/16" around the hole to provide a good electrical ground between the antenna base assembly and the roof.

Step (2) Carefully route the electrician's fishtape through the mounting hole in the roof top.

In some installations it may be necessary to remove the window trim from around the left or right rear window, and loosen the headlining along the top edge of the window.



STEP 2

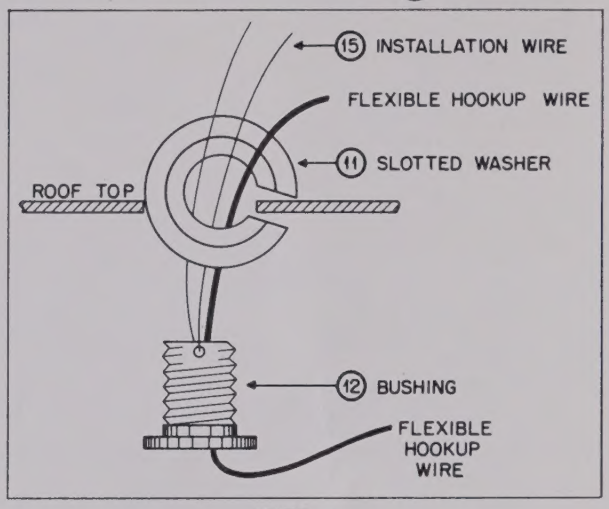


STEP 3

Step (3) Attach a length of #22 or #24 flexible wire to the end of the fishtape and pull the tape back through the antenna mounting hole, leaving approximately 6" of flexible wire exposed at the mounting hole. Disconnect the fishtape.

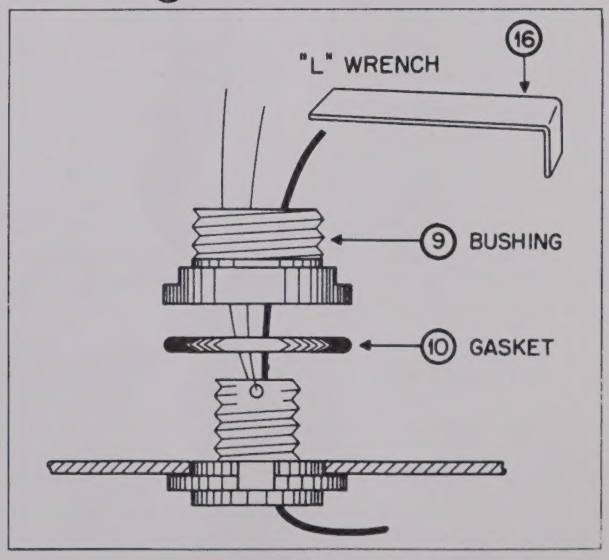
Step (4) Attach the installation wire (15) to bushing (12) and pass the bushing (12) over the end of the flexible wire and lower it through the mounting hole.

Pass the slotted washer (11) over the installation wire (15) and the flexible wire, keeping the shoulder of the washer toward the top. Tilt the washer and pass the slot over the edge of the mounting hole. Push the washer through the mounting hole and onto bushing (12).



STEP 4

Step (5) Pass the gasket (10) (seam side downward) and bushing (9) over the end of the installation wire (15) and over the end of the "fish" wire.



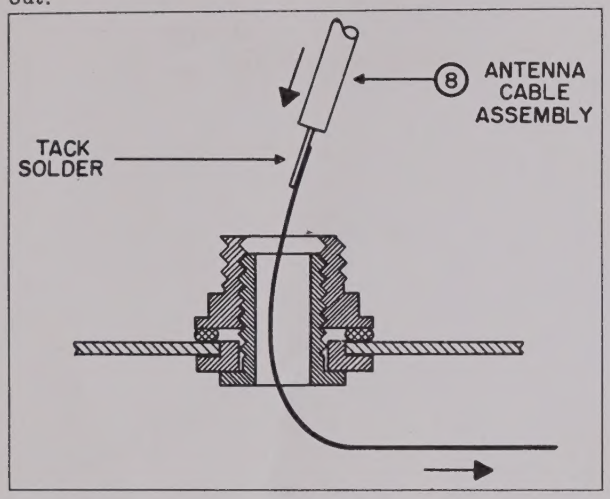
STEP 5

Pull the installation wire upward until washer (11) is firmly seated in the mounting hole. At this time, allow gasket (10) to drop into place over bushing (12)

Apply a small amount of lacquer, glyptal or varnish to the threads of bushing (12). Apply sparingly. Thread bushing (9) onto bushing (12) and tighten as far as possible by hand.

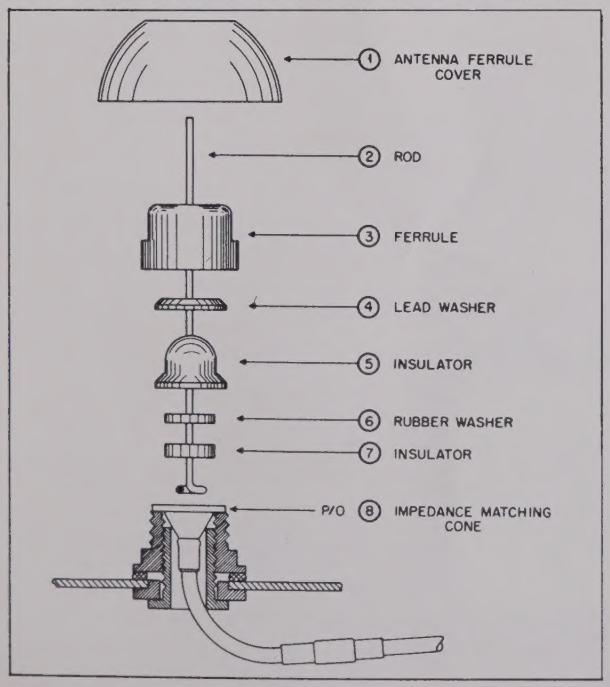
Insert "L" wrench (16) in the slot in the top of bushing (12) and securely tighten bushing (9), using a 7/8" open end wrench.

Remove the installation wire (15) by breaking it in the center and pulling the two pieces out.



STEP 6

Step (6) Tack solder the unconnected end of the antenna cable to the upper end of the flexible wire and gently pull the lower end of this wire from the trunk or window frame until the curved tube on the end of the cable reaches the bushing (9). Work the curved tube downward into the bushing (9) until the impedance matching cone seats in the top of this bushing.



STEP 7

Step (7) Assemble parts (7), (6), (5), (4), and (3) onto the antenna rod (2) in that order and pull the rod upward until parts (4), (5), (6) and (7) are drawn completely into the ferrule (3).

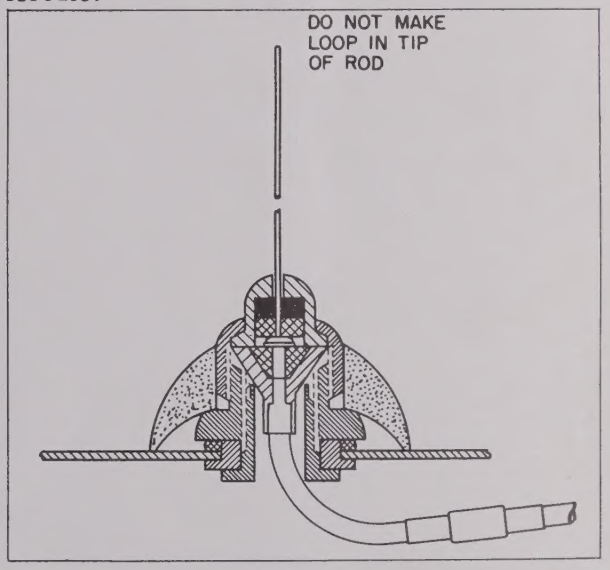
Apply a small amount of lacquer, glyptal or varnish to the threads of bushing (9). Make sure that none gets on the inside.

Step (8) Thread the ferrule (3) onto bushing (9). Tighten the ferrule by hand, then back it off one full turn.

Gently pull on the lower end of the lead-in cable. This will cause the curved tube to swing into line with the lead-in cable, thereby minimizing strain at the junction of the tube and cable.

Tighten the ferrule, using a 3/4" open end wrench. Be careful. Do not tighten the ferrule excessively; otherwise the antenna insulator will crack or break.

Place the ferrule cover (1) over the ferrule.



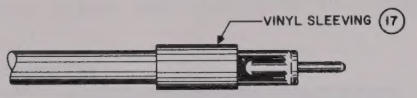
STEP 8

Step (9) IF IT HAS BEEN NECESSARY TO REMOVE THE WINDOW TRIM, route the electrician's fishtape from the trunk compartment to the place where the antenna cable protrudes and attach the antenna cable to the fishtape; pull the fishtape back into the trunk compartment and carefully pull all excess cable into the trunk compartment.

Step (10) Cut the antenna cable to the shortest practical length that will reach the antenna receptacle on the radio set.

CAUTION

Use very hot iron. Solder quickly and chill immediately with cold, wet cloth. DO NOT USE EXCESSIVE HEAT OR SOLDER.



Step (24) Slide the BLACK vinyl sleeving over the end of the connector body. Connect the cable to the antenna receptacle on the radio set.

Step (25) Replace the headlining and trim if previously removed.

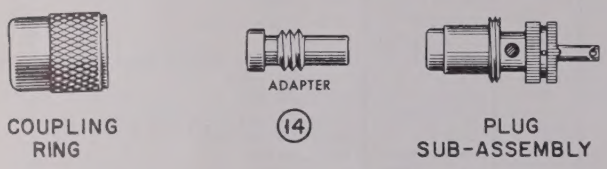
TU265, TU308, TAD6060A and TU316, TAD6100A SERIES ANTENNA PARTS LIST

REFERENCE SYMBOL	MOTOROLA PART No.	DESCRIPTION
1	15A475299	COVER, ferrule
2	47K857719	ROD (TAD6060A only)
	47K844391	ROD (TU316-L & TAD6101A only)
	47K844392	ROD (TU316-M & TAD6102A only)
	47K844393	ROD (TU316-H & TAD6103A only)
	47K844266	ROD (TU308 only)
	47K844783	ROD (TU265 only)
3	43K861791 or	FERRULE
	43A480576	FERRULE (TAD6060A only)
4	4A474911	WASHER, lead
5	14A867450 or	INSULATOR
	14A82661B01	INSULATOR (TAD6060A only)
6	4A822404	WASHER, rubber
7	14A867452 or	INSULATOR
	14A82662B01	INSULATOR (TAD6060A only)
8	1V867453 or	Coaxial Cable & Contact Assembly
	1V80716A30	Coaxial Cable & Contact Assembly (TAD6100A Series)
9	43K861789 or	BUSHING, upper
	43A840573	BUSHING, outer (TAD6060A only)
10	32A474917	GASKET, copper-asbestos
11	4A474901	WASHER, slotted
12	43K861787 or	BUSHING, lower
	43A839962	BUSHING, lower (TAD6060A only)
13	28A42310	CONNECTOR, plug: male; single contact (all except TAD6100A Series)
14	58K854020	ADAPTER, connector cable
15	10M519	WIRE, installation: 18" length req'd
16	66A480578	WRENCH, "L"
17	11M2548	1" SLEEVING, vinyl, #5 (TAD6100A Series only)
18	11M9542	3/4" SLEEVING, cambric, #9 (TAD6100A Series only)
19	28A82752C01	CONNECTOR, plug: male single contact (TAD6100A Series only)

NOTE

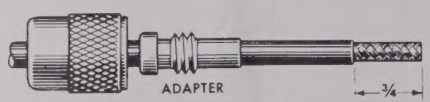
For TAD6100A Series Antennas, perform steps (20) through (25); for all other antennas, perform steps (11) through (19).

Step (11) Disassemble the connector plug. (13)



Step (12) Cut off end of cable squarely. Remove 3/4" of vinyl jacket.

Step (13) Slide coupling ring and adapter on cable.



Step (14) Fan braid slightly and fold back as shown.

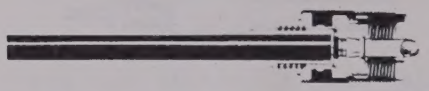
Step (15) Position adapter to dimension shown. Press braid back over body of adapter and trim to 3/8". Bare 5/8" of conductor. Tin exposed center conductor.

Step (16) Screw adapter into body of plug sub-assembly. Solder braid to body of plug sub-assembly through holes. Solder center conductor of cable to plug contact of plug sub-assembly.

CAUTION

Use very hot iron. Solder quickly and chill immediately with cold, wet cloth. DO NOT USE EXCESSIVE HEAT OR SOLDER.

Step (17) For final assembly, screw coupling ring on plug sub-assembly.



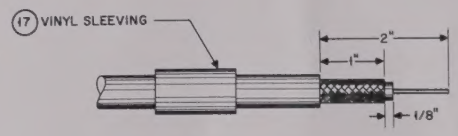
Step (18) Connect cable to antenna receptacle on radio set. Tighten coupling ring.

Step (19) Replace headlining and trim if previously removed.

NOTE

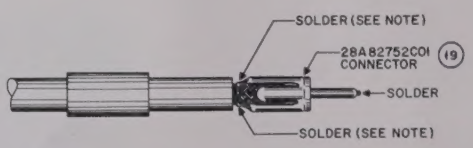
Steps 20 to 25 apply only to TAD6100A Series Antennas.

Step (20) Cut off end of cable squarely. Remove 2" of vinyl jacket and expose center conductor as shown.



Step (21) Slide the BLACK vinyl sleeving (17) on the cable about 4" from the end.

Step (22) Do not fan braid but push back to increase diameter. Slide the 3/4" length of cambric sleeving (18) over the center conductor and under the braid.



Step (23) Insert the bare end of the cable into the connector (19) with the center conductor protruding through the hole in the tip of the connector. Solder the braid to the body of the connector and the center conductor to the tip of the connector as shown.

STEP 23 CONTINUED ON PAGE 5.

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